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Missile Defense Agency (MDA) Exhibit R-2 RDT&E Budget Item Justification					Date February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)		R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System					
COST (\$ in Thousands)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	0	231,488	390,585	427,174	771,878	958,281	885,476
0812 Space Tracking and Surveillance System (STSS) Block 2006	0	227,848	247,519	73,700	92,000	89,200	41,200
0912 Space Tracking and Surveillance System (STSS) Block 2008	0	0	35,000	29,300	24,100	14,100	13,800
R112 Space Tracking and Surveillance System (STSS) Block 2012	0	0	97,000	309,150	635,250	836,690	816,500
0602 Program-Wide Support	0	3,640	11,066	15,024	20,528	18,291	13,976
Amount Included in PE 0904903D	0	0	0	-32,570	-284,669	-300,116	-189,870
Total PE Cost Reflected in R-1	0	231,488	390,585	394,604	487,209	658,165	695,606

Note: STSS funding in FY05 was held in the Sensors PE 0603884C. Per Congressional direction in the FY06 Defense Authorization Bill, funding moved to separate PE in FY06 for increased visibility.

The Space Tracking and Surveillance System (STSS) continues developing a common satellite ground segment and preparing two R&D satellites for launch (STSS Block 2006 -- Project 0812). Beginning in FY07, STSS will upgrade the ground segment and data processing algorithms to take advantage of on-orbit experience (STSS Block 2008 -- Project 0912). MDA is beginning to plan for a constellation of STSS satellites (STSS Block 2012 -- Project R112).

A. Mission Description and Budget Item Justification

The mission of the Missile Defense Agency (MDA) is to develop and field an integrated, layered Ballistic Missile Defense System (BMDS) to defend the United States, its deployed forces, friends, and allies from ballistic missiles of all ranges in all phases of flight. In 2004, the United States fielded an initial defense capability to address known threats. Through the Future Years Defense Plan (FYDP), this initial capability will be expanded by adding and networking forward-deployed sensors, interceptors at sea and on land, and layers of increasingly capable weapons and sensors. In FY05, the Space Tracking and Surveillance System (STSS) was funded with Ballistic Missile Defense Radars in the Sensors (0606884C) Program Element. Beginning in FY06, STSS will be in this Program Element.

A.1 System Element Description

STSS is the evolutionary development of satellite based infrared and visible sensors to provide global tracking of ballistic missiles. The program consists of a ground operating station and pair of demonstration satellites to be launched in Block 2006 (0812), a ground station and software upgrade effort in Block 2008 to best take advantage of the Block 2006 sensor system (0912), and an operational constellation development effort (R112).

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<p>Lessons learned from the Block 2006 and 2008 efforts will feed the development of the operational constellation. The STSS Block 2012 effort will replace the two Block 2006 satellites in the testbed and form the basic for growth to an operational constellation.</p> <p><u>A.2 System Element Budget Justification and Contribution to the Ballistic Missile Defense System (BMDS)</u></p> <ul style="list-style-type: none"> • STSS extends sensor coverage to a global level. STSS enables global tracking of ballistic missiles, and will provide accurate tracking information to the BMDS battle manager, close the global fire control loop with BMDS interceptors, and extend the effective range of BMDS interceptors and other sensors. • Space based sensors are not limited by basing rights issues or deployment decisions, and will allow coverage of countries not accessible from ground based sensors. STSS's visible and Infrared (IR) sensors will complement radars and contribute to a sensor architecture more robust to countermeasures. • Global sensor coverage contributes to the BMDS' ability to counter threats from any location, on any trajectory. <p><u>A.3 Major System Element Goals</u></p> <p>Block 2006</p> <ul style="list-style-type: none"> • Launch two low earth orbit satellites • Demonstrate capability to acquire, track, discriminate and report ballistic missile and intercept events from lift-off through midcourse to reentry • Demonstrate capability to perform autonomous acquisition-to-track handover within a satellite • Demonstrate capability to perform track handover to a satellite • Demonstrate capability to uplink commands and downlink mission, health, and status data both directly and via cross link between two satellites • Explore approaches to close the global fire control loop for BMDS weapons and methods to conduct integrated operations with other BMDS elements <p>Block 2008</p> <ul style="list-style-type: none"> • Upgrade Block 2006 Ground Segment, Spacecraft/Payload software and Ground Segment hardware • Improve the Block 2006 experiment through enhancement or added capabilities necessary to implement lessons learned in design and development of Block 2006 hardware and software development • Provide Block 2012 utility through proof of concept for algorithms, system design and BMDS interfaces to be used in the operational constellation (Block 2012) • Improve Operational Capability through system upgrade that will enable use of Block 2006/2008 system during contingency operations 		

MDA Exhibit R-2 (PE 0603893C)

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<p>Block 2012</p> <ul style="list-style-type: none"> • Provide accurate and timely global midcourse object tracking and reporting of long-range missile attacks against the United States, its allies and deployed forces • Provide accurate, near-real time launch-on/engage data for use by BMDS • Support BMDS threat data acquisition efforts <p><u>A.4 Major Events Schedule and Description</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Major Event</th> <th style="width: 15%;">Project</th> <th style="width: 55%;">Timeframe</th> </tr> </thead> <tbody> <tr> <td colspan="3">Contract Activity</td> </tr> <tr> <td colspan="3">BLOCK 2008</td> </tr> <tr> <td>Contract Modification</td> <td>0912</td> <td>2Q FY 2007</td> </tr> <tr> <td colspan="3">STSS Constellation</td> </tr> <tr> <td>RFP Release</td> <td>R112</td> <td>2Q FY 2006 - 3Q FY 2006</td> </tr> <tr> <td>Contract Award</td> <td>R112</td> <td>1Q FY 2007</td> </tr> <tr> <td colspan="3">Critical Design Review</td> </tr> <tr> <td colspan="3">STSS Constellation</td> </tr> <tr> <td>Critical Design Review</td> <td>R112</td> <td>2Q FY 2009</td> </tr> <tr> <td colspan="3">Other</td> </tr> <tr> <td colspan="3">BLOCK 2006</td> </tr> <tr> <td>Ground Segment Integration & Test</td> <td>0812</td> <td>2Q FY 2005 - 4Q FY 2006</td> </tr> <tr> <td>Satellite Integration and Test</td> <td>0812</td> <td>2Q FY 2005 - 1Q FY 2007</td> </tr> <tr> <td>Launch (2 Satellites)</td> <td>0812</td> <td>3Q FY 2007</td> </tr> <tr> <td>STSS On-Orbit Operations</td> <td>0812</td> <td>3Q FY 2007 - 3Q FY 2009</td> </tr> <tr> <td colspan="3">BLOCK 2008</td> </tr> <tr> <td>Ground Station Upgrades</td> <td>0912</td> <td>2Q FY 2007 - 4Q FY 2008</td> </tr> <tr> <td colspan="3">STSS Constellation</td> </tr> <tr> <td>System Test & Integration</td> <td>R112</td> <td>1Q FY 2011 - 4Q FY 2011</td> </tr> </tbody> </table>			Major Event	Project	Timeframe	Contract Activity			BLOCK 2008			Contract Modification	0912	2Q FY 2007	STSS Constellation			RFP Release	R112	2Q FY 2006 - 3Q FY 2006	Contract Award	R112	1Q FY 2007	Critical Design Review			STSS Constellation			Critical Design Review	R112	2Q FY 2009	Other			BLOCK 2006			Ground Segment Integration & Test	0812	2Q FY 2005 - 4Q FY 2006	Satellite Integration and Test	0812	2Q FY 2005 - 1Q FY 2007	Launch (2 Satellites)	0812	3Q FY 2007	STSS On-Orbit Operations	0812	3Q FY 2007 - 3Q FY 2009	BLOCK 2008			Ground Station Upgrades	0912	2Q FY 2007 - 4Q FY 2008	STSS Constellation			System Test & Integration	R112	1Q FY 2011 - 4Q FY 2011
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<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;">B. Program Change Summary</th> <th style="text-align: center; padding: 5px;">FY 2005</th> <th style="text-align: center; padding: 5px;">FY 2006</th> <th style="text-align: center; padding: 5px;">FY 2007</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Previous President's Budget (FY 2006 PB)</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">Current President's Budget (FY 2007 PB)</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">231,488</td> <td style="text-align: center; padding: 5px;">390,585</td> </tr> <tr> <td style="padding: 5px;">Total Adjustments</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">231,488</td> <td style="text-align: center; padding: 5px;">390,585</td> </tr> <tr> <td style="padding: 5px;">Congressional Specific Program Adjustments</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">234,998</td> <td style="text-align: center; padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">Congressional Undistributed Adjustments</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">-3,510</td> <td style="text-align: center; padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">Reprogrammings</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">SBIR/STTR Transfer</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">Adjustments to Budget Years</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">390,585</td> </tr> </tbody> </table> <p style="margin-top: 20px;">FY06 increase of \$231.488 million implements the Congressionally directed transfer of the Space Surveillance and Tracking System from the BMD Sensors Program Element (PE #0603884C) to a unique Program Element and includes a portion of the MDA Congressional undistributed adjustment.</p> <p>FY07 increase of \$390.585 million follows through with implementation of the Congressionally directed Space Surveillance and Tracking System transfer and includes adjustments to achieve overhead/infrastructure reductions.</p>			B. Program Change Summary	FY 2005	FY 2006	FY 2007	Previous President's Budget (FY 2006 PB)	0	0	0	Current President's Budget (FY 2007 PB)	0	231,488	390,585	Total Adjustments	0	231,488	390,585	Congressional Specific Program Adjustments	0	234,998	0	Congressional Undistributed Adjustments	0	-3,510	0	Reprogrammings	0	0	0	SBIR/STTR Transfer	0	0	0	Adjustments to Budget Years	0	0	390,585
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COST (\$ in Thousands)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0812 Space Tracking and Surveillance System (STSS) Block 2006	0	227,848	247,519	73,700	92,000	89,200	41,200
RDT&E Articles Qty	0	1	2	0	0	0	0
<i>Note: Note: Beginning in FY06, funding for the Space Tracking and Surveillance System (STSS) program was moved to this Program Element per Congressional. FY05 costs can be located within PE 0603884C.</i>							
<i>RDT&E Articles: FY06 - One STSS ground station; FY07 - two STSS Block 2006 Research and Development Satellites</i>							
<u>A. Mission Description and Budget Item Justification</u>							
Block 2006 STSS is a space based demonstration of key capabilities, adding two space based sensors and associated ground station processing capability to the Block 2006 BMDS Test Bed.							
The Block 2006 activity provides key knowledge on which to base the design of a future constellation. Block 2006 STSS delivers a ground segment in FY06 and launches two satellites with visible and infrared sensors into low earth orbit in FY07 for testing with other BMDS elements. These two satellites will provide valuable risk reduction for acquisition, tracking, and discrimination functionality including stereo data fusion, cueing radars over the horizon and over-the-horizon fire control. Key demonstrations will be performed showing the ability to close the global BMDS interceptor fire control loop with data from the Block 2006 satellites.							
To provide STSS with appropriate test opportunities, MDA is procuring four dedicated ballistic missile targets for on-orbit testing, two in FY07 and two in FY08. The STSS-centric tests conducted with these targets will also include opportunities for secondary participation from other BMDS Elements. STSS is contracting with NASA for launch services for the two Block 2006 satellites using a single Delta II launch vehicle.							
The Block 2006 program will develop and demonstrate most of the functions and interfaces required for Engagement Sequence Groups (ESGs): GBI Launch-On and Engage-On STSS and SM-3 Launch-On and Engage-On STSS allowing BMDS interceptors to launch and/or engage on STSS sensor data. Testing will include configurations of the BMDS to include surrogate sensors such as the AF Maui Optical Station (AMOS) telescopes and High Altitude Observatory (HALO) II aircraft.							

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<u>B. Accomplishments/Planned Program</u>			
	FY 2005	FY 2006	FY 2007
Space	0	138,330	119,366
RDT&E Articles (Quantity)	0	0	2
<p>Designs, develops, builds and tests two satellites for launch in 2007 in support of the MDA mission to launch and sustain the Space Tracking Surveillance System</p> <p>FY06 Planned Program:</p> <ul style="list-style-type: none"> • Continue payments to NASA for launch services for the 2 Block 2006 satellites • Conduct payload and satellite bus integration for satellite 2 • Deliver payloads 1 and 2 to space vehicle integration • Conduct systems integration for Satellite 1 and 2 • Begin integration of the two satellites with NASA booster and Orbital Insertion Stage (OIS) • Initiate hardware development in support of the STSS flight tests: SPT-06, SPT-10, SPT-15 and SPT-16 • Conduct range integration activities with Reagan Test Site (RTS), Vandenberg Air Force Base (VAFB) and the Pacific Missile Range Facility (PMRF) for STSS flight tests • Initiate procurement of boosters, develop reentry vehicles and develop countermeasures to support STSS flight tests <p>FY07 Planned Program:</p> <p>RDT&E Articles: Two satellites</p> <ul style="list-style-type: none"> • Complete integration of the two satellites with the booster and Orbital Insertion Stage (OIS) • Launch two STSS satellites into Low Earth Orbit (LEO) • Conduct post launch analysis • Conduct initial on-orbit check out • Conduct tests with resident space objects, ground based and airborne targets • Complete hardware development in support of STSS flight tests: SPT-06 and SPT-10 • Finalize range integration activities with RTS, VAFB and PMRF for STSS flight tests SPT-06 and SPT-10 • Conduct first dedicated flight tests with ballistic missile targets 			

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	FY 2005	FY 2006	FY 2007
Ground	0	9,184	1,118
RDT&E Articles (Quantity)	0	1	0
<p>Designs, develops, builds and maintains a robust ground system for the STSS constellation in support of MDA as well as to integrate elements of the MDA Space Layer that will ensure synergistic use of our space assets.</p> <p>FY06 Planned Program: RDT&E Article: One STSS Ground Station</p> <ul style="list-style-type: none"> • Complete the installation and checkout of the 4 Front End Processors (FEPs) capability at the Missile Defense Space Experimentation Center (MDSEC) which provides the ability to contact both satellites simultaneously and also provide a redundant capability as a back-up. The FEPs are the interface from our processing strings of equipment to the satellites. • Complete the first of two Operational Readiness Demonstrations which demonstrate how effective the first iteration of operations procedures that were completed in FY05 operate on the qualified Build 1 ground system. • Complete Code and Unite Test for software Build 2.4 which will be the qualified version of the Build 2 software. • Complete software qualification testing of version 2.4 which includes increased capability to the same five software items from Build 1. • Conduct Ground Acceptance Test 2 to demonstrate the full capability of the ground segment using the qualified Build 2 software to command and control two simulated STSS Satellites. • Complete the second and final iteration of operations procedures along with the on-line training system which support test rehearsals throughout the year for ground crew operations. The second iteration of procedures capture the additional capability that was developed with the second software build. • Complete the second of two Operational Readiness Demonstrations which demonstrates the full capability of the developed ground system. This demonstration is executed on the final Build 2 qualified baseline. <p>FY07 Planned Program:</p> <ul style="list-style-type: none"> • Archive relevant ground segment documentation and artifacts, and revise as required, to ensure their effective retrieval for subsequent use. • Provide sustainment of ground operational and backup hardware sets at the MDSEC. • Provide maintenance of qualified software. 			

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	FY 2005	FY 2006	FY 2007
Government	0	28,490	26,323
RDT&E Articles (Quantity)	0	0	0
<p>Provides all necessary and continuous personnel, technology, and administrative support for the Space Tracking Surveillance System Program Office</p> <p>FY06 Planned Program:</p> <ul style="list-style-type: none"> Continued program management FFRDC support to manage execution of the STSS program Provided Program Office Support to Travel, Cost Estimating Support, Administrative Management Services, Hardware and Software purchases and maintenance, Computer Network Support, Supplies, Reimbursement for AF Civilian positions and costs associated with the organizational move to new base buildings in the 2nd quarter of FY06 <p>FY07 Planned Program:</p> <ul style="list-style-type: none"> Continued program management FFRDC support to manage execution of the STSS program Provided Program Office Support to Travel, Cost Estimating Support, Administrative Management Services, Hardware and Software purchases and maintenance, Computer Network Support, Supplies, and Reimbursement for AF Civilian positions 			
	FY 2005	FY 2006	FY 2007
Systems Engineering	0	48,644	68,923
RDT&E Articles (Quantity)	0	0	0
<p>Oversees system level requirement and specification development, configuration development, integration, test, and verification for two satellites for launch in FY07. Interfaces with other MDA elements to ensure proper integration into the Ballistic Missile Defense System (BMDS).</p> <p>FY06 Planned Program:</p> <ul style="list-style-type: none"> Continue System Compatibility Tests (Ground to Satellite and Satellite to Satellite communication) Continue Advanced Tracking and Discrimination Algorithm Development Conduct BMDS Integration Begin Launch & On-orbit Flight Test Preparations 			

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<p>FY07 Planned Program:</p> <ul style="list-style-type: none"> Complete Launch & On-orbit Flight Test Preparations Conduct Launch Staff and operate the STSS satellite operations center in the MDSEC Continue Advanced Tracking and Discrimination Algorithm Development Conduct initial satellite check out and testing with Resident Space Objects, Airborne and Ground based targets and dedicated ballistic missile targets 			
	FY 2005	FY 2006	FY 2007
IR Engagement Sequence	0	3,200	6,589
RDT&E Articles (Quantity)	0	0	0
<p>FY06 Planned Program:</p> <ul style="list-style-type: none"> Develop stronger STSS surrogate sensor interfaces aboard the High Altitude Observatories (HALO) II aircraft, the Widebody Airborne Sensory Platform (WASP) aircraft, and the Air Force Maui Optical and Supercomputing Site (AMOS) telescopes in order to advance near-real-time multi-sensor track fusion techniques. Demonstrate the utility of STSS advanced tracking and discrimination algorithms to the BMDS community utilizing surrogate InfraRed (IR) sensor data in preparation of the STSS Block 2006 satellite launch <p>FY07 Planned Program:</p> <ul style="list-style-type: none"> Continue to utilize the STSS Surrogate Testbed (SSTB) Fusion Workstation (FW) located at the MDSEC to collect, process and distribute live and archived IR surrogate and Block 2006 satellite for distribution throughout the BMDS community for testing, verification, validation and accreditation of STSS and BMDS advanced algorithms Continue to demonstrate the utility of STSS advanced tracking and discrimination algorithms to the BMDS community utilizing surrogate InfraRed (IR) sensor data in preparation of the STSS Block 2006 satellite launch 			
	FY 2005	FY 2006	FY 2007
Near Field Infrared Experiment (NFIRE)	0	0	25,200
RDT&E Articles (Quantity)	0	0	0
<p>NOTE: FY06 funding for NFIRE was directed by Congressional action to move from the Ballistic Missile Defense System Interceptors program element (PE 0603886C) to the BMD Technology program element (PE 0603175C). The FY07 funding was reviewed and deemed insufficient for the</p>			

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current schedule and requirements to complete the NFIRE satellite launch that will include not only the Track Sensor Payload, but an additional communications payload, the Laser Communications Terminal (LCT) from the German government. It was determined that additional funding in FY07 to support the NFIRE program would be assigned to the STSS PE in anticipation of a request to move this and any future funding for NFIRE from this PE and PE 0603175C to the new BMD System Space Program PE 0603895C. PE 0603893C and PE 0603895C will become the two core program elements under the auspices of the newly formed MDA Space Applications Center of Excellence in FY08. In FY07, NFIRE funding is located in PE 0603175C (\$10.8 million) and \$25.2 million in PE 0603893C, for a total of \$36 million to conduct the planned program.								
FY07 Planned Program								
<ul style="list-style-type: none">• Conduct Initial On-Orbit Operations to ensure the functionality and performance of the Track Sensor Payload (TSP) prior to executing a mission• Accept delivery of two Multi-stage Boost Targets• Conduct Target of Opportunity Missions to collect low resolution plume data and validate the tracking performance of the TSP• Conduct Near Field Boosting Target Fly-by mission to collect high resolution plume data• Conduct Hyper-Temporal Experiment to assess early launch detect and tracking capability• Conduct laser communications experiments to assess the viability of the technology for use by the BMDS and STSS Block 2012 (O)								
C. Other Program Funding Summary								
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	224,016	162,297	197,707	192,034	203,946	212,106	218,002	1,410,108
PE 0603879C Advanced Concepts, Evaluations and Systems	166,996	0	0	0	0	0	0	166,996
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	914,063	1,198,860	1,037,203	878,540	615,005	731,692	482,362	5,857,725
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	4,487,253	2,489,257	2,605,567	2,444,109	2,065,344	1,979,612	1,617,059	17,688,201
PE 0603883C Ballistic Missile Defense Boost Defense Segment	472,543	490,863	632,028	567,493	493,842	615,859	988,731	4,261,359
PE 0603884C Ballistic Missile Defense Sensors	567,193	294,283	536,428	554,012	623,089	306,965	217,590	3,099,560
PE 0603886C Ballistic Missile Defense System Interceptors	272,064	215,952	438,287	634,709	1,138,597	1,391,301	1,499,204	5,590,114
PE 0603888C Ballistic Missile Defense Test and Targets	700,570	632,107	692,209	614,174	649,766	668,624	678,105	4,635,555
PE 0603889C Ballistic Missile Defense Products	384,935	394,652	521,640	517,507	534,429	530,893	531,219	3,415,275
PE 0603890C Ballistic Missile Defense System Core	398,852	420,151	558,231	557,880	561,003	548,354	554,731	3,599,202

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	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603891C Special Programs - MDA	0	324,522	421,303	836,168	1,110,695	1,027,677	1,260,497	4,980,862
PE 0603892C Ballistic Missile Defense Aegis	0	939,066	990,565	857,832	900,265	933,815	816,206	5,437,749
PE 0603894C Multiple Kill Vehicle	0	83,000	220,370	273,805	307,566	309,284	115,119	1,309,144
PE 0603895C BMD System Space Program	0	0	0	45,000	150,000	166,000	206,100	567,100
PE 0605502C Small Business Innovative Research - MDA	138,907	0	0	0	0	0	0	138,907
PE 0901585C Pentagon Reservation	11,001	17,386	15,586	6,058	6,376	4,490	4,725	65,622
PE 0901598C Management Headquarters - MDA	110,662	99,327	89,314	86,821	86,244	70,600	70,714	613,682
PE Air Force Military Personnel	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
PE Air Force Operations and Maintenance	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
PE Air Force Other Procurement	0	2,400	1,453	11,279	386	17,710	25,709	58,937
PE Army Operations and Maintenance	49,597	66,974	68,246	69,809	71,472	73,325	75,230	474,653
PE Army Natl Guard Military Personnel	21,000	17,648	24,432	24,952	25,591	25,591	25,591	164,805
PE Army Natl Guard Operations and Maintenance	0	155	151	150	154	164	167	941
PE Navy Operations and Maintenance	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PE PAC-3/MEADS Missile Procurement	574,972	581,924	578,579	660,584	616,020	509,032	738,679	4,259,790
PE PAC-3/MEADS RDT&E	344,978	304,973	336,959	465,395	521,791	522,418	502,961	2,999,475

D. Acquisition Strategy

STSS follows the Missile Defense Agency's capability-based acquisition strategy that emphasizes testing, spiral development, and evolutionary acquisition through the use of two-year capability blocks. The STSS effort is being pursued through a single prime contractor, Northrop Grumman Space Technology (NGST), with the subcontractor Raytheon providing the sensor payload. The program develops a ground station and series of R&D satellites aligned to the BMDS capability blocks. A contract for the first R&D spiral, the Block 2006 satellites was awarded in third quarter FY02. This contract implements MDA's capability-based acquisition strategy by a) using largely existing satellite hardware as a low risk opportunity, b) building upon the lessons learned from previous development efforts and c) establishing a series of planned enhancements to bring added capability to the BMDS.

D. Acquisition Strategy

STSS follows the Missile Defense Agency's capability-based acquisition strategy that emphasizes testing, spiral development, and evolutionary acquisition through the use of two-year capability blocks. The STSS effort is being pursued through a single prime contractor, Northrop Grumman Space Technology (NGST), with the subcontractor Raytheon providing the sensor payload. The program develops a ground station and series of R&D satellites aligned to the BMDS capability blocks. A contract for the first R&D spiral, the Block 2006 satellites was awarded in third quarter FY02. This contract implements MDA's capability-based acquisition strategy by a) using largely existing satellite hardware as a low risk opportunity, b) building upon the lessons learned from previous development efforts and c) establishing a series of planned enhancements to bring added capability to the BMDS.

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis						Date February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System				
I. Product Development Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Space								
Capability Based R&D Contract	SS/CPAF	NGST/ CA	224,763	87,335	1/4Q	69,801	1/4Q	381,899
Launch Vehicle Integration	C/MIPR	NASA/ FL	27,329	31,300	1/4Q	19,500	1/4Q	78,129
Target Acquisition	Various	MDA/ Various	0	19,695	1/4Q	30,065	1/4Q	49,760
Ground								
Capability Based R&D Contract	SS/CPAF	NGST/ CA	69,469	7,834	1/4Q	578	1/4Q	77,881
Government Furnished Equipment	MIPR	Joint National Integration Center (JNIC) / Schriever AFB CO	0	1,350	1/4Q	540	1/3Q	1,890
Systems Engineering								
Capability Based R&D Contract	SS/CPAF	NGST/ CA	125,247	39,834	1/4Q	56,698	1/4Q	221,779
Advanced Algorithm Development	MIPR	MIT/LL, Lockheed Martin,Xontech,Sp arta,CSC Nichols/ Hanscom AFB MA,LAAFB CA	4,765	3,500	1/4Q	6,936	1/4Q	15,201
Risk Reduction Analysis	MIPR	AFRL/ NM	0	5,310	1/4Q	5,289	1/4Q	10,599
IR Engagement Sequence								
Data Collection and Analysis	MIPR	MIT/LL, AFRL / Hanscom AFB MA,Kirtland AFB NM	8,202	3,200	1/4Q	6,589	1/4Q	17,991

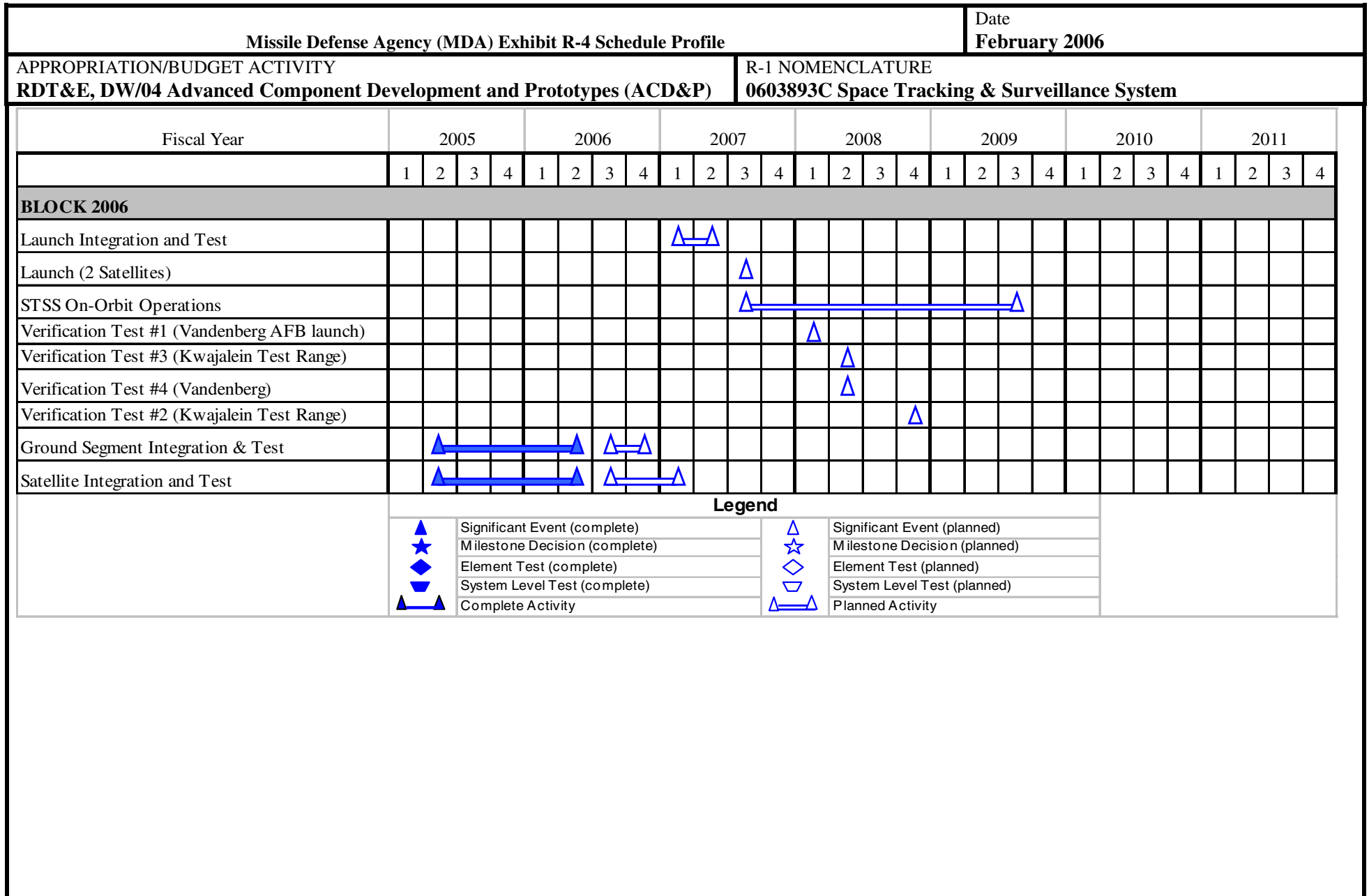
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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis						Date February 2006		
APPROPRIATION/BUDGET ACTIVITY					R-1 NOMENCLATURE			
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					0603893C Space Tracking & Surveillance System			
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Near Field Infrared Experiment (NFIRE)								
NFIRE	C/CPAF	General Dynamics, AFRL, JNIC/ AZ, NM,CO	0	0	N/A	25,200	N/A	25,200
Subtotal Product Development			459,775	199,358		221,196		880329
Remarks								
<ul style="list-style-type: none"> Advanced Algorithm Development is accomplished by a team of multiple contractors or government organizations to include, but not limited to, the Massachusetts Institute of Technology/Lincoln Laboratory (MIT/LL), Defense Microelectronics Activity, NGST, Lockheed Martin, Photon Research Association, SPARTA and Computer Science Corporation/Nichols Research Corporation (CSC/Nichols). Determination of funding requirements will be made upon completion of prior fiscal year activities. Data Collection and Analysis demonstrates STSS performance characteristics and testing of STSS advanced algorithms. Funding is forwarded to several government organizations to include, but not limited to, MIT/LL and AFRL. Determination of funding requirements will be made upon completion of prior fiscal year activities, and testing schedules of partnering activities. NFIRE funding will be forwarded to several Contractors and government organizations to include, but not limited to General Dynamics, AFRL and the JNIC. For FY07, STSS will propose to the Agency that the NFIRE program funding in this program element be moved to the new program element established in FY06 for the Space Test Bed (PE 0306895C). PE 0603893C and PE 0603895C will become the two core program elements within the MDA Space Applications Center of Excellence 								
II. Support Costs Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Government								
Shared Mission Support	Various	SMC/ CA	19,951	9,224	2/4Q	9,613	2/4Q	38,788

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis						Date February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System			
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
OGA Civilian	Various	SMC/ CA	2,815	2,195	2/4Q	2,262	2/4Q	7,272
Subtotal Support Costs			22,766	11,419		11,875		46060
Remarks All Shared Mission Support costs and OGA Civilian costs have been allocated to Block 2006, through the launch in FY07.								
III. Test and Evaluation Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Test and Evaluation								
IV. Management Services Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Government								
FFRDC	FFRDC	AEROSPACE/ CA	23,862	16,450	2/3Q	14,123	2Q	54,435
SETA	FFRDC	MITRE/ Wash DC	584	321	2Q	325	2Q	1,230
UARC	FFRDC	SDL/ UT	200	300	2Q	0	N/A	500
Subtotal Management Services			24,646	17,071		14,448		56165
Remarks All FFRDC costs have been allocated to Block 2006, through the launch in FY07.								
Project Total Cost			507,187	227,848		247,519		982,554

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail					Date February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System			
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
BLOCK 2006							
IR Engagement Sequence	1Q-4Q	1Q-4Q	1Q-4Q				
Operational and Test Readiness	3Q-4Q	1Q-4Q	1Q-3Q				
Spacecraft Integration and Test	1Q-4Q						
Payload Fabrication and Integration & Test	1Q-4Q	1Q-2Q					
Launch Integration and Test			1Q-2Q				
Launch (2 Satellites)			3Q				
STSS On-Orbit Operations			3Q-4Q	1Q-4Q	1Q-3Q		
Verification Test #1 (Vandenberg AFB launch)				1Q			
Verification Test #3 (Kwajalein Test Range)				2Q			
Verification Test #4 (Vandenberg)				2Q			
Additional System Flight Tests			4Q	1Q-4Q	1Q-4Q	1Q-4Q	1Q-4Q
Verification Test #2 (Kwajalein Test Range)				4Q			
System Compatibility Tests	3Q,4Q	1Q					
Ground Segment Integration & Test	2Q-4Q	1Q-4Q					
Satellite Integration and Test	2Q-4Q	1Q-4Q	1Q				

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification					Date February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System			
COST (\$ in Thousands)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0912 Space Tracking and Surveillance System (STSS) Block 2008	0	0	35,000	29,300	24,100	14,100	13,800
RDT&E Articles Qty	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification

STSS is the space based sensor element of the BMDS.

The STSS Block 2008 provides for upgrades to the Block 2006 ground station hardware and software and Spacecraft/Payload software. The Block 2008 upgrade effort will incorporate lessons learned from design and development in Block 2006 and experiences of other BMD elements to improve the performance of the STSS system and its utility to the BMDS. These improvements will provide additional knowledge points on which to base design and algorithms choices for the Block 2012 Constellation.

STSS will conduct integrated operations with other BMD Elements in concert with the MDA Responsible Test Organization (RTO). Testing will be conducted to verify BMD System level goals and performance.

B. Accomplishments/Planned Program

	FY 2005	FY 2006	FY 2007
Ground and Software Upgrades	0	0	35,000
RDT&E Articles (Quantity)	0	0	0

FY07 Planned Program:

- Modify Block 2006 contract to upgrade or add to Ground Segment's Build 2 software completed in FY06, Ground Segment hardware and Spacecraft/Payload software. These upgrades include enhancements as well as new capabilities necessary to implement lessons learned in design and development in Block 2006 hardware and software development, and those necessary to refine the Ground Segment to increase the utility of Block 2006 satellites to the BMDS. Specific examples are:
 - Provide further automation of the Ground Mission Data Processing and Mission Management software to reduce latency, eliminate person in loop, enable real time data processing, and , for contingency operations, automate planning and tracking
 - Upgrade existing software and hardware at the Missile Defense Space Experimentation Center (MDSEC) to enhance interface and utility to BMDS elements
 - Develop algorithms and upgrade Ground Mission Data Processing Build 2 software to generate additional midcourse track features and improve systems ability to discriminate tracks

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System				
<ul style="list-style-type: none">• Provide proof of concept for algorithms, system design and BMDS interfaces to be used in the operational constellation (Block 2012)• Complete hardware development in support of STSS flight tests: SPT-15 and SPT-16• Finalize range integration activities with Reagan Test Site (RTS), Vandenberg Air Force Base (VAFB) and the Pacific Missile Range Facility (PMRF) in support of the STSS flight tests: SPT-15 and SPT-16								
C. Other Program Funding Summary								
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	224,016	162,297	197,707	192,034	203,946	212,106	218,002	1,410,108
PE 0603879C Advanced Concepts, Evaluations and Systems	166,996	0	0	0	0	0	0	166,996
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	914,063	1,198,860	1,037,203	878,540	615,005	731,692	482,362	5,857,725
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	4,487,253	2,489,257	2,605,567	2,444,109	2,065,344	1,979,612	1,617,059	17,688,201
PE 0603883C Ballistic Missile Defense Boost Defense Segment	472,543	490,863	632,028	567,493	493,842	615,859	988,731	4,261,359
PE 0603884C Ballistic Missile Defense Sensors	567,193	294,283	536,428	554,012	623,089	306,965	217,590	3,099,560
PE 0603886C Ballistic Missile Defense System Interceptors	272,064	215,952	438,287	634,709	1,138,597	1,391,301	1,499,204	5,590,114
PE 0603888C Ballistic Missile Defense Test and Targets	700,570	632,107	692,209	614,174	649,766	668,624	678,105	4,635,555
PE 0603889C Ballistic Missile Defense Products	384,935	394,652	521,640	517,507	534,429	530,893	531,219	3,415,275
PE 0603890C Ballistic Missile Defense System Core	398,852	420,151	558,231	557,880	561,003	548,354	554,731	3,599,202
PE 0603891C Special Programs - MDA	0	324,522	421,303	836,168	1,110,695	1,027,677	1,260,497	4,980,862
PE 0603892C Ballistic Missile Defense Aegis	0	939,066	990,565	857,832	900,265	933,815	816,206	5,437,749
PE 0603894C Multiple Kill Vehicle	0	83,000	220,370	273,805	307,566	309,284	115,119	1,309,144
PE 0603895C BMD System Space Program	0	0	0	45,000	150,000	166,000	206,100	567,100
PE 0605502C Small Business Innovative Research - MDA	138,907	0	0	0	0	0	0	138,907
PE 0901585C Pentagon Reservation	11,001	17,386	15,586	6,058	6,376	4,490	4,725	65,622
PE 0901598C Management Headquarters - MDA	110,662	99,327	89,314	86,821	86,244	70,600	70,714	613,682
PE Air Force Military Personnel	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
PE Air Force Operations and Maintenance	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
PE Air Force Other Procurement	0	2,400	1,453	11,279	386	17,710	25,709	58,937
PE Army Operations and Maintenance	49,597	66,974	68,246	69,809	71,472	73,325	75,230	474,653

Project: 0912 Space Tracking and Surveillance System (STSS) Block 2008

MDA Exhibit R-2A (PE 0603893C)

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603893C Space Tracking & Surveillance System

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE Army Natl Guard Military Personnel	21,000	17,648	24,432	24,952	25,591	25,591	25,591	164,805
PE Army Natl Guard Operations and Maintenance	0	155	151	150	154	164	167	941
PE Navy Operations and Maintenance	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PE PAC-3/MEADS Missile Procurement	574,972	581,924	578,579	660,584	616,020	509,032	738,679	4,259,790
PE PAC-3/MEADS RDT&E	344,978	304,973	336,959	465,395	521,791	522,418	502,961	2,999,475

D. Acquisition Strategy

STSS will follow the Missile Defense Agency's capability-based acquisition strategy that emphasizes testing, spiral development and evolutionary acquisition. The Block 2008 Ground Segment and Software Upgrade effort will be pursued through the Block 2006 prime contractor, Northrop Grumman Space Technology (NGST), with subcontractors playing key roles as needed. A contract for the Block 2006 activity was awarded in third quarter FY02. Options on this contract will be awarded to accomplish the Block 2008 Ground Segment and Software Upgrade activity. Contract modification is expected to take place in the FY07 timeframe.

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis						Date February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System			
I. Product Development Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Ground and Software Upgrades								
Capability Based R&D Contract	SS/CPAF	NGST/CA	0	0	N/A	35,000	1Q	35,000
Subtotal Product Development			0	0		35,000		35000
Remarks As the Ground and Software upgrades activity is a refinement of the Block 2006 ground segment, no funding or activity is planned until FY07.								
II. Support Costs Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Support Costs								
Remarks								
III. Test and Evaluation Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Test and Evaluation								
Remarks								

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis						Date February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System			
IV. Management Services Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Management Services								
Remarks								
Project Total Cost			0	0		35,000		35,000
Remarks As the Ground and Software upgrades activity is a refinement of the Block 2006 ground segment, no funding or activity is planned until FY07.								

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Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile																		Date February 2006										
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)														R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System														
Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
BLOCK 2008																												
Contract Modification																												
Ground Station Upgrades																												
	<div>Legend</div> <div><div><div>▲</div><div>★</div><div>◆</div><div>▼</div><div>▲</div><div>▲</div></div><div><div>Significant Event (complete)</div><div>Milestone Decision (complete)</div><div>Element Test (complete)</div><div>System Level Test (complete)</div><div>Complete Activity</div></div></div> <div><div>△</div><div>☆</div><div>◇</div><div>▽</div><div>△</div><div>△</div></div> <div><div>Significant Event (planned)</div><div>Milestone Decision (planned)</div><div>Element Test (planned)</div><div>System Level Test (planned)</div><div>Planned Activity</div></div>																											

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail						Date February 2006	
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System			
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
BLOCK 2008							
Contract Modification			2Q				
Ground Station Upgrades			2Q-4Q	1Q-4Q			

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification					Date February 2006														
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System															
COST (\$ in Thousands)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011												
R112 Space Tracking and Surveillance System (STSS) Block 2012	0	0	97,000	309,150	635,250	836,690	816,500												
RDT&E Articles Qty	0	0	0	0	0	0	0												
<p><i>Note: The OSD Cost Analysis Improvement Group (OSD CAIG) is on track to complete an independent cost estimate for the STSS Block 2012 (Operational) program for delivery to the congressional defense committees.</i></p> <p><u>A. Mission Description and Budget Item Justification</u></p> <p>The STSS Block 2012 (Operational) program initiates STSS's operational capability spiral. Block 2012 (O) satellites represent the next spiral of STSS, providing operational functionality, increased global coverage, improved system performance, and near real time capability. The first two STSS Block 2012 (O) satellites replace the Block 2006 satellites, which are expected to reach the end of their mission life by the launch of the Block 2012 (O) satellites.</p> <p>Mission Objectives for the Block 2012 (O) satellite constellation are the following:</p> <ul style="list-style-type: none"> • Provide accurate and timely global midcourse object tracking and reporting of long-range missile attacks against the United States, its allies and deployed forces • Provide accurate, near launch-on/engage-on data for use by BMDS weapons systems • Support BMDS threat data acquisition efforts • Provide a cost-effective, initial operational spiral meeting near-term performance goals <p>To support the funding request, the OSD CAIG is currently conducting an independent cost estimate. Results are anticipated to be available in the April/May 2006 time frame. Delivery of the first Block 2012 (O) satellite is expected to be in the 2012-2013 time frame.</p> <p><u>B. Accomplishments/Planned Program</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;">FY 2005</td> <td style="text-align: center;">FY 2006</td> <td style="text-align: center;">FY 2007</td> </tr> <tr> <td>Block 2012 Constellation</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">97,000</td> </tr> <tr> <td>RDT&E Articles (Quantity)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </table> <p>FY07 Planned Program:</p> <ul style="list-style-type: none"> • Complete Acquisition Strategy Development • Conduct system trades • Award prime contract 									FY 2005	FY 2006	FY 2007	Block 2012 Constellation	0	0	97,000	RDT&E Articles (Quantity)	0	0	0
	FY 2005	FY 2006	FY 2007																
Block 2012 Constellation	0	0	97,000																
RDT&E Articles (Quantity)	0	0	0																

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System				
<ul style="list-style-type: none">Refine system requirements then conduct System Requirements ReviewDevelop initial design then conduct a System Design Review (SDR)								
C. Other Program Funding Summary								
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	224,016	162,297	197,707	192,034	203,946	212,106	218,002	1,410,108
PE 0603879C Advanced Concepts, Evaluations and Systems	166,996	0	0	0	0	0	0	166,996
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	914,063	1,198,860	1,037,203	878,540	615,005	731,692	482,362	5,857,725
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	4,487,253	2,489,257	2,605,567	2,444,109	2,065,344	1,979,612	1,617,059	17,688,201
PE 0603883C Ballistic Missile Defense Boost Defense Segment	472,543	490,863	632,028	567,493	493,842	615,859	988,731	4,261,359
PE 0603884C Ballistic Missile Defense Sensors	567,193	294,283	536,428	554,012	623,089	306,965	217,590	3,099,560
PE 0603886C Ballistic Missile Defense System Interceptors	272,064	215,952	438,287	634,709	1,138,597	1,391,301	1,499,204	5,590,114
PE 0603888C Ballistic Missile Defense Test and Targets	700,570	632,107	692,209	614,174	649,766	668,624	678,105	4,635,555
PE 0603889C Ballistic Missile Defense Products	384,935	394,652	521,640	517,507	534,429	530,893	531,219	3,415,275
PE 0603890C Ballistic Missile Defense System Core	398,852	420,151	558,231	557,880	561,003	548,354	554,731	3,599,202
PE 0603891C Special Programs - MDA	0	324,522	421,303	836,168	1,110,695	1,027,677	1,260,497	4,980,862
PE 0603892C Ballistic Missile Defense Aegis	0	939,066	990,565	857,832	900,265	933,815	816,206	5,437,749
PE 0603894C Multiple Kill Vehicle	0	83,000	220,370	273,805	307,566	309,284	115,119	1,309,144
PE 0603895C BMD System Space Program	0	0	0	45,000	150,000	166,000	206,100	567,100
PE 0605502C Small Business Innovative Research - MDA	138,907	0	0	0	0	0	0	138,907
PE 0901585C Pentagon Reservation	11,001	17,386	15,586	6,058	6,376	4,490	4,725	65,622
PE 0901598C Management Headquarters - MDA	110,662	99,327	89,314	86,821	86,244	70,600	70,714	613,682
PE Air Force Military Personnel	0	3,628	7,640	8,332	8,535	8,826	9,129	46,090
PE Air Force Operations and Maintenance	17,600	7,964	11,712	33,830	33,080	34,119	35,398	173,703
PE Air Force Other Procurement	0	2,400	1,453	11,279	386	17,710	25,709	58,937
PE Army Operations and Maintenance	49,597	66,974	68,246	69,809	71,472	73,325	75,230	474,653
PE Army Natl Guard Military Personnel	21,000	17,648	24,432	24,952	25,591	25,591	25,591	164,805
PE Army Natl Guard Operations and Maintenance	0	155	151	150	154	164	167	941

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date February 2006
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APPROPRIATION/BUDGET ACTIVITY	R-1 NOMENCLATURE
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	0603893C Space Tracking & Surveillance System

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE Navy Operations and Maintenance	11,300	12,900	24,100	24,400	24,600	23,300	23,700	144,300
PE PAC-3/MEADS Missile Procurement	574,972	581,924	578,579	660,584	616,020	509,032	738,679	4,259,790
PE PAC-3/MEADS RDT&E	344,978	304,973	336,959	465,395	521,791	522,418	502,961	2,999,475

D. Acquisition Strategy

Per the January 2002 Missile Defense Directive, STSS adopted a spiral development, capability-based acquisition approach. The STSS Program Office will build and deploy satellites of increasing performance and technical sophistication. The Block 2012 (O) satellite constellation represents the next spiral of STSS, providing operational functionality, increased coverage, improved system performance, and near real time capability. The acquisition strategy is under development, with contract award anticipated in 1Q FY07. Initial procurement will be for two Block 2012 (O) satellites with unpriced options for an additional three satellites.

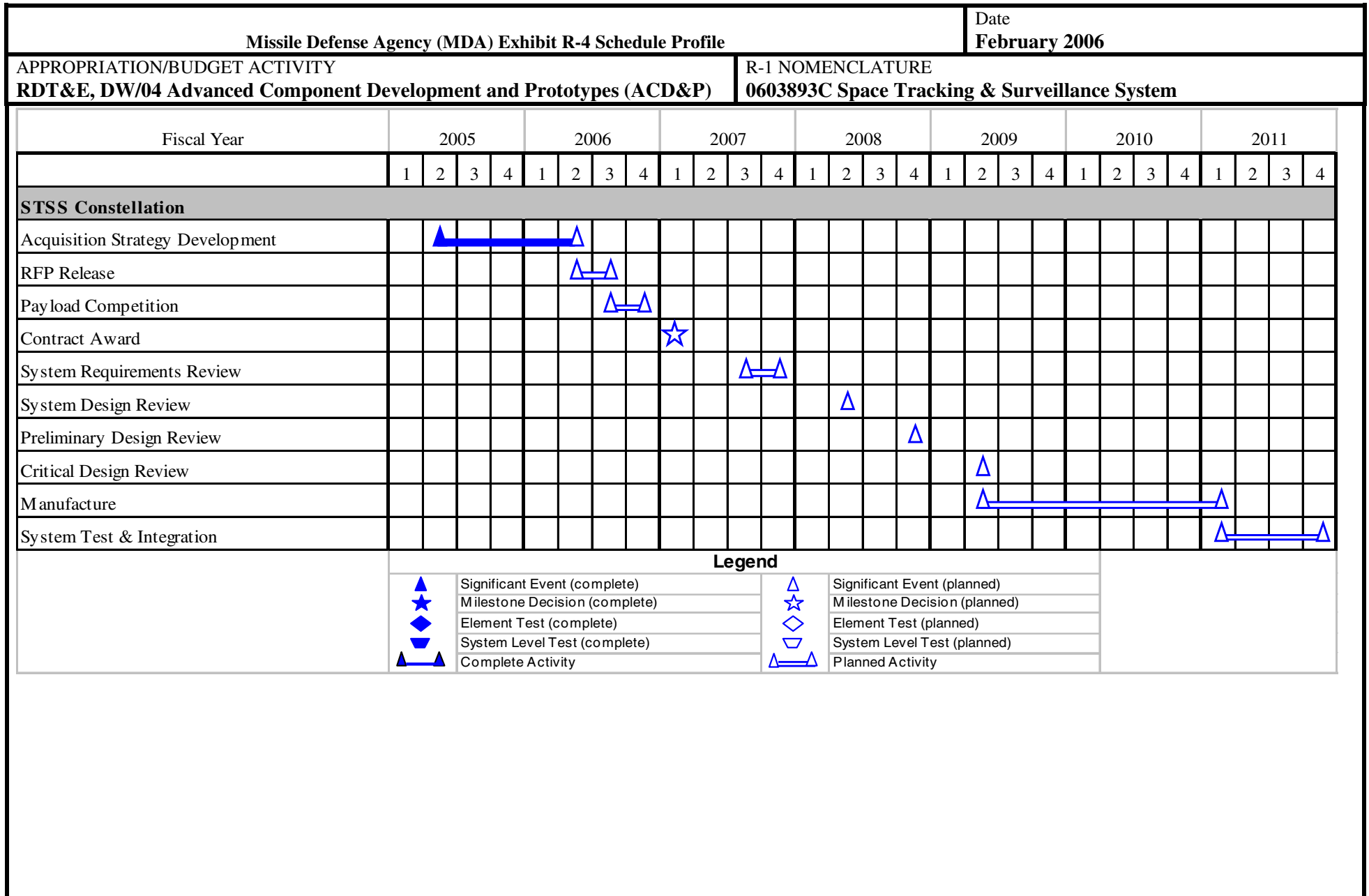
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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis						Date February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System			
I. Product Development Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Block 2012 Constellation								
Capability Based R&D Contract		TBD/ TBD	0	0	N/A	94,000	1/4Q	94,000
Subtotal Product Development			0	0		94,000		94000
Remarks Acquisition Strategy for the Block 2012 (O) program is under development -- contract details will be available in 2nd or 3rd quarter FY07.								
II. Support Costs Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Block 2012 Constellation								
Shared Mission Support	Various	SMC/ CA	0	0	N/A	3,000	1/4Q	3,000
Subtotal Support Costs			0	0		3,000		3000
Remarks Shared Mission Support Costs will be paid with funds from Block 2006 and Block 2012. These costs include travel, training, computer services and hardware and software costs.								
III. Test and Evaluation Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Test and Evaluation								
Remarks								

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Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis						Date February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)					R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System			
IV. Management Services Cost (\$ in Thousands)								
Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award/ Oblg Date	FY 2007 Cost	FY 2007 Award/ Oblg Date	Total Cost
Subtotal Management Services								
Remarks								
Project Total Cost			0	0		97,000		97,000
Remarks								

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Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail					Date February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System			
Schedule Profile	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
STSS Constellation							
Acquisition Strategy Development	2Q-4Q	1Q-2Q					
RFP Release		2Q-3Q					
Payload Competition		3Q-4Q					
Proposal Review and Evaluations		4Q	1Q				
Contract Award			1Q				
Refine Requirements			2Q-3Q				
System Requirements Review			3Q-4Q				
Develop Initial Design			4Q	1Q-2Q			
System Design Review				2Q			
Preliminary Design Review				4Q			
Critical Design Review					2Q		
Manufacture					2Q-4Q	1Q-4Q	1Q
System Test & Integration							1Q-4Q

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification					Date February 2006		
APPROPRIATION/BUDGET ACTIVITY				R-1 NOMENCLATURE			
RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				0603893C Space Tracking & Surveillance System			
COST (\$ in Thousands)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
0602 Program-Wide Support	0	3,640	11,066	15,024	20,528	18,291	13,976
RDT&E Articles Qty	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification

Program-Wide Support provides funding for common non-headquarters support functions across the entire program such as strategic planning, program integration, business management, cost estimating, contracting, and financial management, to include preparation of financial statements, reimbursement of financial services provided by DFAS, internal review and audit, earned-value management, and program assessment. Includes costs for both government civilians performing these functions, as well as outside services and support contractors that augment government staff in these areas. Many of these costs reside within the Missile Defense Agency Executing Agents in the Services: Army Space and Missile Defense Command, Army PEO Space and Missile Defense, Office of Naval Research, and various Air Force laboratory and acquisition activities, although some functions and costs within this program element are performed by MDA employees assigned within the National Capital Region (NCR). Other costs included herein provide facility capabilities for MDA Executing Agent locations, such as physical and technical security, legal services, travel and training, office and equipment leases, utilities and communications, supplies and maintenance, and similar operating expenses. Also includes funding for charges on canceled appropriations in accordance with Public Law 101-510, legal settlements, and foreign currency fluctuation on a limited number of foreign contracts.

B. Accomplishments/Planned Program

	FY 2005	FY 2006	FY 2007
Civilian Salaries and Support	0	3,640	11,066
RDT&E Articles (Quantity)	0	0	0

See Section A: Mission Description and Budget Item Justification

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Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification						Date February 2006		
APPROPRIATION/BUDGET ACTIVITY RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)				R-1 NOMENCLATURE 0603893C Space Tracking & Surveillance System				
C. Other Program Funding Summary								
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Total Cost
PE 0603175C Ballistic Missile Defense Technology	224,016	162,297	197,707	192,034	203,946	212,106	218,002	1,410,108
PE 0603879C Advanced Concepts, Evaluations and Systems	166,996	0	0	0	0	0	0	166,996
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	914,063	1,198,860	1,037,203	878,540	615,005	731,692	482,362	5,857,725
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	4,487,253	2,489,257	2,605,567	2,444,109	2,065,344	1,979,612	1,617,059	17,688,201
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PE 0901585C Pentagon Reservation	11,001	17,386	15,586	6,058	6,376	4,490	4,725	65,622
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Project: 0602 Program-Wide Support

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MDA Exhibit R-2A (PE 0603893C)